

REMARKS

This Amendment is responsive to the Office Action dated January 9, 2008. Applicant has amended claims 1-8, 11, 14, 15, 18, 19, 21, 24-26, 30-33, 35, 38, 39, 42, 43, 45, 48-50, 55-57, 59, 62, 63, 66, 67, 69, 72, 75-78, 80, 82-87, 91, 92, 108-118, 122 and 123. Claims 1-123 are pending.

Claim Objections

In the Office Action, the Examiner objected to claims 15, 18, 19, 39, 42, 43, 63, 66, 67, 91, 92, 122 and 123 because these claims presented one of the acronyms VGA, CIF and QCIF without prior antecedent description of the abbreviations in the claims. Applicant has amended each of these claims to correct for this deficiency.

In support of these amendments, Applicant has amended the specification, and particularly, paragraph [0018] of the specification to recite the readily understood words that the acronyms VGA, CIF, and QCIF represent within the context of encoding multimedia streams. Applicant contends that a person of ordinary skill in the art would have understood VGA to represent a video graphics array format, CIF to represent a common intermediate format and QCIF to represent a quarter-common intermediate format. In support of these contentions, Applicant notes that Wikipedia (www.wikipedia.org) provides similar definitions for each of these acronyms given the context of video graphics to which this application is directed, which demonstrates that these acronyms are well known to persons of ordinary skill in the art.¹ Consequently, Applicant has added no new matter to the specification.

Based on amended paragraph [0018], Applicant has amended claim 15, 18, 19, 39, 42, 43, 63, 66, 67, 91, 92, 122 and 123 to recite in full, where appropriate, the words corresponding to each of the acronyms VGA, CIF and QCIF. On this basis, Applicant requests withdrawal of the objection against claims 15, 18, 19, 39, 42, 43, 63, 66, 67, 91, 92, 122 and 123.

¹ For VGA, see <http://en.wikipedia.org/wiki/VGA>

For CIF, see http://en.wikipedia.org/wiki/Common_Intermediate_Format

For QCIF, see <http://en.wikipedia.org/wiki/QCIF> or http://en.wikipedia.org/wiki/Common_Intermediate_Format.

Claim Rejections Under 35 U.S.C. § 102

In the Office Action, the Examiner rejected claims 1-12, 14, 20, 22-36, 38, 44, 46-60, 62, 68, 70-90, 93-121 under 35 U.S.C. 102(b) as being anticipated by Paz et al. (WO 00/07083). Applicant traverses the rejection to the extent such rejection may be considered applicable to the amended claims.

As an initial matter, Applicant notes that the Examiner improperly rejected many of Applicant's independent claims. According to MPEP 2131, for an anticipation rejection under 35 U.S.C. 102(b), the single prior art reference **must** teach every element of the rejected claim, either expressly or inherently. MPEP 706 instructs examiners that they **must**, whenever a reference is complex or shows or describes inventions other than that claimed by the applicant, "designate as nearly as practicable" the particular part relied on when rejecting claims for want of novelty or obviousness.² In rejecting claim 1, the Examiner properly cited to Paz in accordance with MPEP 706 by providing specific pages and lines, as well as, figures to designate as nearly as practicable the particular part relied upon in rejecting claim 1. Whether Paz teaches every element of claim 1 is discussed in more detail below. However, the Examiner proceeded to reject independent claims 25, 49, 73, 80, 81, 93, 102 and 121 based on the same reasoning as claim 1. Applicant contends that many of these claims present elements either entirely different from or that add to those elements required by claim 1. Thus, a wholesale rejection of these claims for the same reasons as that stated with regard to claim 1 fails to meet the requirements of MPEP 2131 and therefore is improper.

For example, Applicant's claim 81 is directed to a communication system comprising at least one decoder that receives and decodes incoming encoded multimedia streams, and at least one encoding system configured to receive and encode the decoded stream to render an encoded stream. Claim 1 does not recite a decoder to receive, let alone decode incoming encoded multimedia streams. Claim 1 instead recites re-encoding a received stream. However, even if presumed to apply to Applicant's claim 81, Paz fails, for the reasons presented below with respect to Applicant's claim 1, to disclose decoding and subsequent re-encoding, and instead describes translation, which is substantially different. Insofar as the rejection did not address

² Citing 37 CFR 1.104(c) *Rejection of claims*.

these elements of Applicant's claim 81, Applicant believes that Claim 81 was improperly rejected.

As another example, Applicant's claim 73 is directed to a mobile station, operable in a communication system, comprising a transceiver configured to communicate with a wireless provider system and a processor for displaying a multimedia stream received from the wireless provider system via the transceiver, wherein the multimedia stream is encoded using a first encoding scheme selected from a group of encoding schemes. Unlike claim 73, claim 1 is not directed to a mobile station operable in a communication system, nor does claim 1 recite a transceiver, much less a transceiver configured to communicate with a wireless provider system. In addition, unlike claim 73, claim 1 further does not require a processor, let alone a processor for displaying a multimedia stream received from a wireless provider system. Claim 1 also does not disclose a group of encoding schemes. By not citing as nearly as practicable to these elements in Paz, the rejection did not demonstrate that Paz discloses every element recited by claim 73. As a result, Applicant submits that the rejection of claim 73 is improper insofar as it relies on the analysis of claim 1, which is different than claim 73.

As another example, claim 80, which Applicant has amended to correct for typographical errors, requires that the encoding parameter set is determined based on an encoding scheme selected *from a group of encoding schemes*. Unlike claim 80, claim 1 does not recite a group of encoding schemes. The Examiner therefore failed to properly reject claim 80.

Likewise, claim 81 requires one of two encoding schemes contrary to the single encoding scheme required by claim 1. Again, Applicant believes that claim 18 was not properly rejected as the rejection did not identify two encoding schemes in Paz. In short, the current rejections of claims 73, 80 and 81 are believed to be improper insofar as the rejection did not analyze the limitations of these claims, but instead relied on the analysis of claim 1, which is different than claims 73, 80 and 81.

Applicant acknowledges that original claims 25 and 49 present many if not all of the same elements recited by Applicant's original claim 1 and therefore recognizes the rejection against these claims 25 and 49 as being proper from a procedural standpoint. However, claims 73, 80, 81, 93, 102 and 121, as described above, are believed to be improperly rejected. As a

result, Applicant requests withdrawal of the rejection against claims 73, 80, 81, 93, 102 and 121 until a proper rejection is presented.

With respect to claim 1, and various related claims, Applicant respectfully traverses the rejections to the extent such rejections may be considered applicable to the claims as amended. Paz et al. (WO 00/07083) fails to disclose each and every feature of the claimed invention, as required by 35 U.S.C. 102(b), and provides no teaching that would have suggested a rational reason to include such features.

For example, Paz et al. (WO 00/07083) fails to teach or suggest an apparatus, operable in a wireless communication system, comprising an encode manager included within wireless service provider equipment of the wireless communication system for receiving a multimedia stream, as recited by Applicant's currently amended claim 1.

Paz also fails to teach the apparatus further comprising an encoder system included within the wireless service provider equipment for re-encoding the received stream using an encoding parameter set to output an encoded stream with principles set forth by the encoding parameter set, wherein the encoding parameter set is determined according to an encoding scheme based on available bandwidth within the wireless communication system, as recited by Applicant's currently amended claim 1.

Instead, Paz is generally directed to a system for providing access to the Internet within a cable network via a client, e.g., a television and accompanying set-top box.³ Paz refers to this service as Internet-TV and states that "[a] television set is upgraded using an electronic box so that the television may be used to access the Internet."⁴ FIG. 1 of Paz illustrates this system by showing a cable data server connected to the Internet and a set-top box. Through the set-top box, a TV, a computer, and a mouse / keyboard may interact with the cable data server to receive compressed video from and provide user control to the cable data server.⁵

FIG. 2 of Paz illustrates the cable data server in more detail, showing a plurality of programs that receive data, e.g., from the Internet. The cable data server of Paz further includes a virtual display to render the data and a compressor to compress the rendered data, which is then

³ Page 2, lines 26-28.

⁴ Page 1, lines 23-24.

⁵ FIG. 1.

encoded and sent to the set-top box.⁶ The cable data server also provides an alternative path, where the programs receive the data, compress and encode the data without first decompressing the data.⁷ The cable data server employs this alternative path if the display element is an encoded object, such as compressed video or audio.⁸

The Paz system therefore does not teach an encoder system for *re-encoding* the multimedia stream. In fact, Paz explicitly teaches away from re-encoding the multimedia stream by stating "If the display element is an encoded object (52), for example compressed video or audio, the compressed data is preferably *transcribed* (54) into the MPEG stream, rather than decompressing and re-compressing it."⁹ That is, Paz merely suggests *transcribing* one encoding to another, while Applicant's claim 1 requires re-encoding the multimedia stream, which is substantially different from transcribing. Applicant's FIG. 1 illustrates one example of re-encoding and specifically shows a decoder to decode or decompress the multimedia stream and an encoding system to re-encode or compress the multimedia stream.

In rejecting Applicant's original claim 1, the Office Action relied on and cited page 14, lines 18-33 of Paz, but provided no explanation of how this cited passage teaches re-encoding the multimedia stream. Applicant presumes the Examiner equated re-encoding with transcribing, but Applicant respectfully submits that transcribing described by Paz is substantially different from re-encoding, as required by Applicant's claims. Transcribing typically involves a mapping between input content and transcribed content, where the mapping is applied to the input content in order to generate the transcribed content. In this case, however, no actual re-encoding occurs, e.g., because transcribing does not decode or decompress the input content. Rather, the transcribed content is merely a translation of the input content. Re-encoding, in contrast, requires decoding, e.g., through decompression, and then subsequent encoding, e.g., via compression, both of which Paz specifically teaches away from and attempts to avoid, presumably to speed of delivery of the content to the set-top box.

To further demonstrate the fact that Paz attempts to avoid re-encoding the multimedia stream, Applicant notes that Paz states on page 3, lines 17-20 that "efficient compression is

⁶ FIG. 2.

⁷ FIG. 2; page 14, lines 18-20.

⁸ Page 14, lines 18-20.

achieved by maintaining the compression of video, audio and/or still images which are retrieved by the server and sent to the client, instead of decompressing them and then compressing them again prior to sending them.” In this passage, again, Paz teaches away from decoding and then re-encoding the multimedia stream. Applicant respectfully submits that Paz does not teach re-encoding, as required by Applicant’s currently amended claim 1, much less the decoding of encoded content and subsequent encoding (e.g., re-encoding) of resulting decoded content, as required by Applicant’s improperly rejected claim 81.

Although the above arguments suffice to overcome the rejection, Applicant has amended claim 1, for purposes of clarity, such that the invention set forth in claim 1 is directed to a *wireless* communication system. To this end, Applicant has amended claim 1 to recite an encode manager included within wireless service provider equipment of the wireless communication system, and an encoder system included within the wireless service provider equipment. In addition, Applicant has amended claim 1 to require that the encoding parameter set be determined according to an encoding scheme based on available bandwidth within the wireless communication system. Paz fails to teach or suggest a wireless communication system in general and specifically fails to teach or suggest an encode manger and system of wireless service provider equipment of the wireless communications system, let alone an encoding scheme based on available bandwidth within the wireless communication system.

Applicant submits that Paz is directed to a *wired* not a *wireless* communication system, as required by Applicant’s currently amended claim 1. Paz provides exhaustive detail concerning application of the Paz system within a wired cable network.¹⁰ In rejecting Applicant’s claims 20 and 22, the Office Action contended that Paz may also be applied to a wireless communication system and cites to page 34, lines 31-33 and page 35, lines 1-2 of Paz, as supporting this contention. Applicant submits that this portion of Paz has been misconstrued to improperly read on Applicant’s claims.

The relied upon portion of Paz, e.g., page 34, line 31 through page 35, line 2, provides example situations in which overlap between packets may be useful. The Paz reference explains

⁹ Page 14, lines 18-20 (Emphasis Added).

¹⁰ Page 2, lines 16-28; FIG. 1; FIG. 2; page 10, line 14 through page 14, line 4; and FIG. 4.

this overlap as occurring when a single packet belongs to two or more channels.¹¹ An example of overlap, Paz suggests, is where an exemplary packet may include data for a frame of a “Windows 95” window, which may be useful for many channels.¹² This overlap may also be shown by an example, Paz teaches, where a plurality of data channels utilize the same “T” frame but at least some different “P” frames.¹³ Paz goes then suggests in the portion cited by the Examiner that the overlap may be useful in situations involving satellite communication systems having limited bandwidth and wireless transmission systems, such as used for TV broadcasting. Applicant therefore submits that Paz teaches that the above described overlap may be employed in these systems, not that the Paz system as a whole may be used in these systems.

In fact, Applicant submits that the Paz reference could not apply broadly to any wireless transmission system, such as used in TV broadcasting, as Paz requires interaction with or input from the user. FIG. 1 of Paz clearly shows user control input being uploaded from the set-top box to the cable data server. Yet, Applicant notes that these Paz systems are not two-way communication systems. That is, TV broadcast systems only *broadcast* information and are not capable of receiving information from a television. A TV broadcast station, therefore, is only a one-way communication systems where communications flow in a single direction, e.g., from the broadcast system to the television. Paz also describes the satellite system as a broadcasting system, which suggests one-way communications. Paz provides no teaching to demonstrate that such input may be uploaded to these broadcast systems, nor does Paz even suggest that such input may occur within these systems. Instead, Paz only teaches to use packet overlap in these limited bandwidth systems because the Paz system would not function, as described above, in wireless transmission systems of the type mentioned by Paz.

Thus, Paz does not contemplate a wireless communication system as required by Applicant’s currently amended claim 1. Moreover, Applicant can find no teaching or suggestion in Paz concerning wireless service provider equipment, much less an encode manager and encoder system of the wireless service provider equipment, all of which are also required by Applicant’s currently amended claim 1. Further, Paz does not teach or suggest an encoding

¹¹ Page 34, lines 26-28.

¹² Page 34, lines 26-28.

¹³ Page 34, lines 28-29.

scheme that is based on available bandwidth within the wireless communication system, as Paz is directed to a wired communication system.

As Applicant has amended independent claims 25 and 49 in much the same manner as that of claim 1, Applicant submits that the arguments made above with respect to claim 1, apply equally to these currently amended claims 25 and 49. Moreover, because claims 2-24, 26-48 and 50-72 depend from these claims 1, 25 and 49 respectively, Applicant submits that these claims 2-24, 26-48 and 50-72 benefit from these arguments as well.

Applicant, however, submits that the dependent claims recite numerous additional features the further distinguish the claimed invention from Paz, especially considering that Paz is mostly directed to wired communication systems.

For example, Applicant's currently amended claim 8 requires a decoder for receiving the multimedia stream and decoding the multimedia stream to output a decoded stream. The Examiner, in rejecting claim 8, stated that "it is inherent that a decoder must be used to decode the received data before compressing the data to send to the user." However, as described above, Paz teaches away from decoding encoded multimedia streams and instead translates those streams. Thus, it would be inherent that Paz provides a translator to translate a multimedia stream encoded according to a first format into a stream encoded according to a second format. Again, no re-encoding occurs in Paz, so a decoder would not be necessary.

As another example, Applicant's original claim 12 recites a handheld device. Paz makes no mention of handheld devices. Moreover, Paz shows a set-top box in FIG. 1, which interfaces with the cable data server. Thus, even if the Examiner construed a television as a handheld device, the need for the set-top box considerably limits such constructions, as the set-top box is not handheld and conventional set-top boxes are typically fixed and connected by a wire to the cable network. Thus, Paz lacks any teaching or suggestion concerning handheld devices.

Likewise, Applicant's claim 20 requires a computer to receive the multimedia stream from a *mobile station*. Paz, similar to handheld device, does not mention mobile stations. In this instance, however, the set-top box, being coupled by a wire to the cable network, would severely limit the mobility of a television to the extent that construing the television as mobile is unreasonable.

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In summary, Paz et al. (WO 00/07083) fails to disclose each and every limitation set forth in claims 1-12, 14, 20, 22-36, 38, 44, 46-60, 62, 68, and 70. For at least these reasons, the Examiner failed to establish a prima facie case for anticipation of Applicant's claims 1-12, 14, 20, 22-36, 38, 44, 46-60, 62, 68, and 70 under 35 U.S.C. 102(b). Withdrawal of these rejections is requested.

The Office Action also did not properly reject Claims 73-90 and 93-121. Applicant therefore requests the Examiner either allow these claims, or present a proper basis for rejecting these claims. Applicant, however, submits that many of the arguments made above apply equally to claims 73-90 and 93-121. Therefore, Applicant submits that the Office Action, for the reasons described above with respect to claims 1-12, 14, 20, 22-36, 38, 44, 46-60, 62, 68, and 70, did not establish a prima facie case for anticipation of Applicant's claims 73-90 and 93-121.

Claim Rejections Under 35 U.S.C. § 103

In the Office Action, the Examiner rejected claims 13, 21, 37, 45 and 61 under 35 U.S.C. 103(a) as being unpatentable over Paz et al. (WO 00/07083). In the Office Action, the Examiner also rejected claims 15-19, 39-43, 63-67, 91-92 and 122-123 under 35 U.S.C. 103(a) as being unpatentable over Paz et al. (WO 00/07083) in view of Karczewicz et al. (US 6,735,249) Applicant respectfully traverses the rejection to the extent such rejections may be considered applicable to the claims as amended. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention.

Claims 13, 21, 37, 45 and 61

Applicant submits that the arguments above with respect to independent claims 1, 25, and 49 also apply to dependent claims 13, 21, 37, 45 and 61, as these claims depend from independent claims 1, 25 and 49. Because no other reference was combined with Paz and Paz provides no teaching to suggest 1) re-encoding, 2) a wireless communication system, 3) wireless service provider equipment, 4) an encode manager of the wireless service provider equipment, 5) an encoder system of the wireless service provider equipment, and 6) an encoding scheme based

on available bandwidth within the wireless communication system, Paz lacks any teaching to suggest all of the limitation set forth in claims 13, 21, 37, 45 and 61.

Claims 15-19, 39-43, 63-67, 91-92 and 122-123

Applicant submits that the arguments above with respect to independent claims 1, 25, 49, 73, 80, 81, 93, 102 and 112 also apply to claims 15-19, 39-43, 63-67, 91-92 and 122-123.

For some of these independent claims, i.e., claims 73, 80, 81, 93, 102 and 112, the Office Action did not properly reject these claims in accordance with the above cited portions of the MPEP. As claims 91-92 and 122-123 depend from these improperly rejected base claims 81 and 112, Applicant submits that the rejections of claims 91-92 and 122-123 are also improper because they depend from these improperly rejected base claims.

However, for claims 15-19, 39-43, and 63-67, Applicant submits that the Karczewicz reference fails to cure the above identified deficiencies of Paz. Paz, as described above, provides no teaching to suggest 1) re-encoding, 2) a wireless communication system, 3) wireless service provider equipment, 4) an encode manager of the wireless service provider equipment, 5) an encoder system of the wireless service provider equipment, and 6) an encoding scheme based on available bandwidth within the wireless communication system. Karczewicz fails to cure many of these deficiencies.

In particular, Karczewicz fails to describe re-encoding a multimedia stream. Karczewicz instead describes a system for operating upon a video sequence utilizing motion compensated prediction.¹⁴ FIG. 1 of Karczewicz shows an encoder of a video sequence generator and a decoder of a video sequence receiver, which lie on opposite sides of a communication path. Applicant's claimed invention requires re-encoding, and Applicant's FIG. 1 illustrates a decoder and an encoder system that lie on the same side of the communication path. In fact, both of Applicant's decoder and encoder lie within the same wireless service provider equipment. Karczewicz fails to disclose re-encoding and, as a result, fails to cure the re-encoding deficiency described above with respect to Paz.

¹⁴ Column 6, lines 18-22.

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The Examiner may have recognized that Karczewicz fails to disclose re-encoding, as the Examiner only relied on Karczewicz for its teaching concerning various encoding formats, e.g., VGA, CIF and QCIF. In any case, Applicant submits that Karczewicz fails to cure many of the deficiencies described above with respect to Paz.

For at least these reasons, Applicant submits that the Office Action does not establish a prima facie case obviousness of Applicant's claims 13, 15-19, 21, 37, 39-43, 45, 61, 63-67, 91-92 and 122-123 under 35 U.S.C. 103(a). Withdrawal of this rejection is respectfully requested.

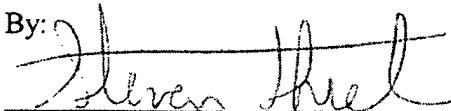
CONCLUSION

All claims in this application are believed to be in condition for allowance. Accordingly, Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 17-0026. The Examiner is invited to telephone the below-signed attorney to discuss this application.

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